Sanitized Copy Approved for Release 2011/06/30 : CIA-RDP80-00809A000600040342-8 CLASSIFICATION CONFIDENTIAL/SECURITY INFORMATION CENTRAL INTELLIGENCE AGENCY INFORMATION REPORT 50X1-HUM COUNTRY Poland DATE DISTR. 7 Aug 1953 SUBJECT Inland Waterways-The Vistula River NO. OF PAGES PLACE ACQUIRED NO. OF ENCLS. (LISTED BELOW DATE ACQUIRED SUPPLEMENT TO REPORT NO. 50X1-HUM DATE OF I THIS IS UNEVALUATED A SOPRATION 50X1-HUM The essential elements of information applicable to the Vistula River are 1. Drainage area: 74,600 square miles.

2. Precipitation and runoff within drainage area:

40 inches per year in upper basin - Bunoff yaries from 0.50

3. Channel alignment: tortuous and shifting.

4. A. Gradient:

- a. From Skoczow to the mouth of the Przemsza -3.83 feet per mile.
- b. Between the mouth of the Przemsza and the mouth of the San - 1.60 feet per mile.
- c. From the mouth of the San to Warsaw 1.38 feet per mile.
- d. From Warsaw to the mouth of the Brda 1.08 feet per mile.
- e. From the mouth of the Brda to Danzig 0.92 feet per mile.

B. Current:

1.3 to 2 mile per hour at low water flow to 7 mile per hour at high water flow

C. Discharge:

The characteristic discharges at Wloclawek drainage area: 66,100 square miles. Mileage post: 430.0 Discharge at low water level - 6,300 cubic feet Discharge at mean water level - 42,300 cubic feet Discharge at high water level - 220,000 cubic feet

CLASSIFICATION	COMPIDENTIAL /SECURI	ITY INFORMATION	
	DISTRIBUTION		
		ORR EV	
		I ORR EV	

CONFIDENTIAL - Security Information

50X1-HUM

2 -

- D. Width: Width adapted for regulation works (river training works, groins etc.)

 From 400 feet in the upper stretch to 800 feet in the lower stretch, but due to not completed regulation works especially between Sandomierz and Pulawy the width increases in some places up to 10,000 feet.
- E. Depth: The aim of the regulation works was to obtain 5.48 feet of depth at medium water flow.

 In practice the downward moving sand-bars have caused the main channel to become so tortuous that depths of p to 33 feet have appeared at the bends while cand shoals have arisen at the transit points (straight sections) and often reduce depth there to less than three feet.
- 5. Turbidity rather great, due to sediment movement.
- 6; Stren gauging stations were located as follows:

Pustynia (0.31 mile); Dwory (2.37 mile)
Smolice (14.7 mile); Czernichow (29.6 mile)
Tyniec (39.6 mile); Krakow (48.9 mile); Plaszow (50.8 mile)
Przewoz (59.3 mile); Niepoeomice (63.0 mile); Kozica (65.5 mile)
Nowa Wies (71.5 mile); Starosecwice (81.1 mile); Popedzynka (86 mile)

Jagodniki (95.4 mile); Karsy (103.4 mile): Pawlow (110.1 mile)
Szczucin (121 mile); Otalaz (131 mile)
Ostrowek (138.5 mile); Kolo (148 km); Dzikow (150.9 mile);
Sandomierz (167.2 mile); Dabrowa Wrzaska (170.5 mile); Chwalowice (177 mile); Zawichost (178.1 mile); Annopol (186.1); Solec (206 mile); Krolewski Las (289.7 mile); Warszawa (Warsaw) (319 mile);
Plock (392 mile); Wloclawek (422 mile); Nieszawa (437 mile);
Fordon (481 mile); Chelmno (501 mile); Grudziadz (518 mile);
Korzeniowo (539 mile); Matawski Cypel (550 mile); Pieklo (552 mile); Malaslance (558 mile); Tczew (564 mile); Schievenhorst (583.3 mile).

7. Seasonal variation of flow.

High water - always (due to melting snow) in spring; occasionally (due to heavy rains) in summer.

Low water - mostly in summer or in fall.

On the upper stretch between Krakow and Sandamierz the differences between the low water level and that of the maximum vary from about 16.5 to 26.5 feet.

Gn the middle stretch between Sandomierz and Warssw - the amplitude of water levels varies from 12.3 feet in Kloda, where a very large inundation area of the river is formed by flood water, due to lack of protective likes, to 23.4 feet at Pulawy.

On the lewer stretch the corresponding figures are: from 26.6 feet at Forden to 33.6 feet at Tozew.

CONFIDENTIAL - Security Information

CONFIDENTIAL - Security Information

50X1-HUM

- 3 -

- 8. Tidal effects: very little and only up to Tczew.
- 9. Bed of stream: fine sand; no stebility.
- 10. Banks: loose material; high banks occur occasionally upstream Krakow, downstream Sandomierz near Warsaw and Grudziadz.
- 11. Control works: (dams and reservoirs)

Head Storage Capacity Power Capacity Roznow on the punases 103 ft. 230 Million cu. yds. 50,000 KW Porabka on the Sola 59 " 30 20,000 " Kozlowagora on the Przemsza 48 " 15 Wapienica on Biala River 50 " (for water supply for Bielsko Town)

- 12. BankStabilization works (as of 1944)
 - On the stretches:
 - Krakow-Sandomierz nearly completed a.
 - Sandomierz-Warsaw under construction ъ.
 - c. Warsaw-Torun - under construction
 - Torun-Danzig completed **d.**..
- 13. Fordability

There are over 200 sand - banks and shoals mostly on the transit (straight) sections with a depth of three feet or less at low-water level.

14. Bridges: located as follows:

Karsy, Krakow; Szczucin; Sandomierz, Pulawy, Deblin, Warsaw (three); Modlin, Plock, Wloclawek, Torun, Grudziadz and Tczew. Navigable reaches Krakow - harsaw-Danzig

- 15. River ports: located as follows: Krakow, Plaszow, Sandomierz, Warsew, Modlin, Torun, Grudziadz, Tozew, Danzig.
- 16. Effects of weather and climate on navigation: Dry seasons interrupt navigation for two or three weeks. Wet seasons (high water interrupt navigation for two three days. Ice in winter interrupts navigation for 30 - 90 days.
- 17. Hazards: about 200 shoals.
- 18. Aids to navigation: The waterway is provided with buoys, lights, and channel markers.
- 19. Interruption factors: The surplus of water from the storage reservoirs (see point 11 above) in upper basin increases the naviguble depth by one foot up to Sandomierz and about one-half foot at Warsaw.

CONFIDENTIAL - Security Information

CONFIDENTIAL/SECURITY INFORMATION

50X1-HUM

20. The total navigable length of the Vistula is 583 miles and the total navigable length of its tributaries is 977 diles. The following on the Vistula and its tributaries:

to a secretary and

Grand Total		h of waterwa Mavigo Onnage vesse		tula wit	h tribu	itaries (in miles
	to 50	51/100	101/200	201/400	401/	600 over 600	ָּק ,
3632	1560	1068	711	293	244	17	- 1
q	of which t	ne tributari	es amount to				
1900	977	485	389	49		- "	•

21. For rafting purposes the Vistula and its tributaries are navigable for 1750 miles.

- e n d -

CONFIDENTIAL - Security Information